

industry capacity expansion PLAN





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### **WORKPLAN STATUS UPDATE**

**October 4, 2006** 

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#### A Equipment and Materials Availability

Create a coordinated statewide strategy to work with communities and other state agencies to secure adequate materials for California's needs. Increase the use of recycled materials and ensure consistent enforcement of standards and specifications that reflect existing best practices. Implement a coordinated approach to public education, permitting, internal Caltrans improvements, and state policy changes to secure adequate materials.

#### A1 Secure Adequate Materials to Meet State Needs

Implement a coordinated approach to public education, permitting, internal Caltrans improvements, and state policy changes to secure adequate materials.

JOAN SOLLENBERGER - Caltrans, Chief, Division of Transportation Planning

CHARLEY REA - Acting Executive Director, Construction Materials Association of California

#### TASK A1-a-1a

Identify the level and location of materials needs and inventory potential sources. Work with local agencies to include materials sites in land-use plans. Work in cooperation with California Geological Survey & Minerals Association Coalition (MAC), a coalition of Construction Materials Association of California, Southern California Rock Products Association, and California Mining Association.

- Coordinated with the Department of Conservation for aggregate supply map (Map Sheet 52) in GIS and PDF formats.
- Developed an internet site for viewing both PDF file of Map Sheet 52 and GIS shape files identifying permitted mining names and sites for sand, gravel, rock and stone, and a separate listing with ownership information. Link is: (http://www.dot.ca.gov/hq/tsip/gis/ca\_aggregate\_map/ca\_aggregate\_map.shtml)
- Completed September 8, 2006.
- Caltrans is developing an "Expected Material Needs" survey to send to transportation planning agencies requesting building material needs, by county, for programmed and planned transportation projects.
  - October.
  - o Responses will be requested to be returned by the end of October.





#### TASK A1-a-1b

- Specific issues have been shared with the Department of Conservation, Bureau of Land Management (BLM), Department of Water Resources, and Regional Council of Rural Counties to develop solutions to the issues from industry.
- Will coordinate the responses from the agencies and determine what actions need be taken to address the issues.
- The Department of Conservation is going to supply information on the location of potential surface mining sites.
- Caltrans may coordinate a separate meeting between federal and state agencies with industry representatives.

#### **TASK A1-a-2**

- Caltrans reviewed and analyzed the existing Office of Planning and Research (OPR)
  General Plan Guidelines (dated 2003) and determined that these guidelines sufficiently
  address the requirements for material sites in the following chapters: Chapter 4:
  Required Elements (i.e., Land Use, Conservation, and Open Space Elements) Chapter
  9: Surface Mining and Reclamation Act of 1975 (SMARA addresses mineral deposits
  of statewide or regional significance).
- Task completed March 2006.

### TASK A1-a-3

- Minor update of 2003 General Plan Guidelines. The update will only cover legislative changes since the Guidelines were last updated.
- Caltrans has notified OPR (June 2006) that this is a subject of interest and we will work with OPR when the update process starts (expected October 2006).
- Caltrans comments are due to OPR by October 6, 2006.
- Scheduled completion date is January 2007.





#### **TASK A1-a-6**

- Caltrans is working with BLM and the Department of Conservation to coordinate state and federal efforts on issues regarding a ready supply of building materials.
  - BLM has provided information on location of mining sites that Caltrans once or currently has permit rights to mine materials. They also provided a sample MOU as an example to use between the state and local governments approving SMARA permits.
- The Department of Conservation is updating the aggregate supply map (Map Sheet 52), expected update by early fall.
  - Caltrans will provide results of the "Expected Material Needs" survey from regions to the Department of Conservation and the GoCalifornia Industry Capacity Expansion task force with information on anticipated future building materials needs by county, sometime in early October 2006.
- The Division of Transportation Planning is currently assessing cost/benefit information of trucking building materials within a project area versus importing the same materials. The outcome from the analysis is expected in early October.
- Future meetings with federal and state agencies will include county participation.

# TASK A1-b-1 Conduct early outreach to engage stakeholders and educate the public on the need for materials (planning commissioners, local elected officials, environmental groups, local communities).

- Provided input to the February 2006 outreach letter to cities, counties, transportation planning agencies, and other transportation partners on the importance of permitting surface mining facilities.
  - Followed the letter with correspondence to District Intergovernmental Review staff in March 2006, emphasizing the importance of reviewing proposals for additional surface mining sources.
- Outreach made to counties through the California State Association of Counties (CSAC).
  - Meetings with CSAC officers (August 14), the Agriculture and Natural Resources policy committee (August 16), and the CSAC Executive Committee (August 17).
  - Caltrans will make a presentation at the CSAC Annual meeting in late
     November 2006 on the importance of building materials for future infrastructure improvements.





- Outcomes include plans to work closely with CSAC to educate government and the public on the importance of having a ready supply of surface mining materials for building infrastructure improvements. Also improving communications on the issues where there may have been a disconnection in the process (Sonoma County is one example).
- Director Kempton spoke at the Caltrans Regional Coordination Group meeting on September 11. He spoke to MPO and RTPA members on the importance of having building construction materials available for cost efficient future transportation infrastructure improvements.
- Currently coordinating with CSAC to conduct joint "road show" meetings with Caltrans, industry representatives and local officials. Meeting dates are pending.
- Public engagement contract will be used for additional outreach.
  - Caltrans will also coordinate with the League of Cities and other local decision making entities to pursue solutions for improving the supply of building materials.
  - Contract is in review stage at the Department of General Services. When approved, Caltrans will begin working with the consultant to develop outreach strategies.
  - Caltrans will use the results from the "Expected Material Needs" survey (see Task A1-a-6).
  - o Expect contract task work to begin in early October 2006.

### TASK A1-c-1

Seek legislative support and pursue needed changes to state law and policy to facilitate materials acquisition and development. Evaluate possibility of exempting Surface Mining and Reclamation Act (SMARA) reclamation plan updates from the California Environmental Quality Act (CEQA) requirements. (Similar to Department of Forestry timber harvesting).

- Compiled a list of issues facing the construction materials industry in supplying aggregates to Caltrans for highway construction.
- Caltrans working with industry representatives to develop a sense of the business and to determine the scope of impacts to local environments of an extraction site.
- Developed a timeline for each phase of research to meet the legislative proposal process schedule.





- Legislation will be developed once there is agreement on what changes need to be made legislatively.
  - O Dependent on outcomes from outreach efforts to regional, state, and federal agencies and the public.
  - The timeline for developing legislation is December 2007.

MARK LEJA - Caltrans, Chief, Division of Design

#### TASK A1-a-5

Pursue design guidance on facilitating the availability of staging, disposal and materials sites on a project and/or corridor specific basis.

- Reviewed existing guidance and found that consideration of staging, disposal and materials site requirements is well documented in the Highway Design Manual, Project Development Procedures Manual and the Right of Way Manual.
- The Division of Design is currently drafting a Design Information Bulletin (DIB) to emphasize early consideration of staging, disposal and material site needs in the project delivery process. This DIB will list in one document, the existing guidance and manual references that cover this topic. Supplemental instructions will be included to suggest that the engineer's estimate be reflective of the expected availability of staging, disposal and material sites at the time of construction. First draft has already been developed for internal review.





#### A2 Increase the Use of Recycled Materials

Increase the use of recycled asphalt, Portland cement concrete and base materials to address limited supplies and high costs, achieve environmental benefits, and address limited landfill capacity.

MARK LEJA - Caltrans, Chief, Division of Design

DAN CHAPMAN - Asphalt Pavement Association of California

BRUCE CARTER - California and Nevada Cement Promotion Council

JIM O'KANE - Pavement Recycling Systems

<u>TASK A2-a-3</u> Increase local agency and industry awareness of the existing recycling efforts of Caltrans.

- Published an article in the *CTNews* regarding the many recycled products/processes currently used by Caltrans. The article is available on Caltrans' internet.
- The next step is a direct mail distribution of the article to the construction industry, local agencies and various other stakeholders.





BOB BUCKLEY - Caltrans, Chief, Division of Engineering Services

DAN CHAPMAN - Asphalt Pavement Association of California

BRUCE CARTER - California and Nevada Cement Promotion Council

Update standards and specifications to promote higher use of recycled materials (hot mix asphalt; aggregate base; non-virgin aggregate for lean concrete base, temporary construction, impacts evaluation of hazardous material classifications, etc.).

#### Specifications reviewed:

#### • Asphalt Concrete

- Discussion Caltrans technical teams have been working with industry to develop various special provisions to provide for the use of reclaimed and recycled materials. The special provisions list follows:
  - Up to 15% Reclaimed Asphalt Pavement (Contractor's Option)
  - Section 39, "Asphalt Concrete,"
  - Pulverization of Asphalt Concrete Pavement for Roadbase
  - Cold In-Place Recycling
  - Hot In-place Recycling
  - Cold Foam In-Place Full Depth Reclamation

#### • Portland Cement Concrete

- O Standard Specifications Section 90, "Portland Cement Concrete," is being revised by a Caltrans and Industry Joint committee. The new specifications will include recycled and reclaimed materials as substitutes for virgin materials.
- o Discussion Recycled and reclaimed materials include:
  - Flyash as replacement for cement.
  - Ground slag as replacement for cement.
  - Slag as replacement for aggregates
  - "Reclaimed" coarse aggregate from plastic concrete for virgin aggregate
  - Crusher fines as virgin fine aggregate
  - Crushed concrete in minor concrete





JAY NORVELL - Caltrans, Chief, Division of Environmental Analysis

DAN CHAPMAN - Asphalt Pavement Association of California

BRUCE CARTER - California and Nevada Cement Promotion Council

### TASK A2-b-3 Assess the need for lead plans.

- Information on requirements for lead compliance plans presented to the Small Business Council on April 20, 2006.
- Construction contractors must have a lead compliance plan to ensure that this information is communicated to their workers and that appropriate practices are followed.
- Task complete.





### A3 Ensure Uniform Enforcement of and Compliance with Standards and Specifications

Ensure standards and specifications are applied uniformly across Caltrans districts, and that contractors follow them uniformly. Utilize a targeted approach for updating standards and specifications. Incorporate joint Caltrans/industry training where appropriate.

BOB BUCKLEY - Caltrans, Chief, Division of Engineering Services

BRUCE CARTER - California and Nevada Cement Promotion Council

SAM HASSOUN - Director, Associated General Contractors

#### TASK A3-b

Review policy on control and use of non-standard special provisions (NSSPs) and standard special provisions (SSPs). Make the process uniform.

- Updated decision document (DD) #46 requires project engineers to use Standard Specifications ("don't reinvent the wheel").
- Presented at the April 2006 Design Management Board meeting. In review for consistency.

### <u>TASK A3-b-2</u> Convert NSSPs to SSPs, and SSPs to standard specifications as possible.

- Converted Sections 1-9 (General Provisions) of the Standard Specifications and Sections 1-13 of the Notice to Contractors and Special Provisions (Project Specifications) under Caltrans' Specification Writer's Style Guide eliminating over 60 SSPs and related NSSPs.
- Pilot the General Provisions and Project Specifications on small contracts.
- Caltrans is converting the rest of the standard specifications and incorporating SSPs and NSSPs as conditional clauses.

### TASK A3-e-1 & 2 Review and develop plan to implement uniform contract language.

 DD#51 instituted the Specification Writer's Style Guide to standardize language and adopt construction industry terminology.





- Bid Books converted and forms standardized with Department of General Services and Caltrans' Division of Procurement and Contracts. The conversion reduced the bid books variations from 8 to 2 (federal or Non-federal) and the total pages by 10.
- Presented at the April 2006 Design Management Board meeting. In review for consistency.

### BOB PIEPLOW - Caltrans, Chief, Division of Construction

#### TASK A3-a-1

Winter Training. Provide training to resident engineers and other key staff of the importance of and processes for consistent enforcement. Ensure standards and specifications are applied uniformly across Caltrans Districts. Develop accountability programs to promote uniformity of contract enforcement.

- Surveyed the Construction District Deputies to identify and prioritize the skill sets needing improvement. Traffic Safety will be the topic for the 2007 training sessions.
- Developed a Winter Training plan to provide a combination of internet and classroom instruction to each construction inspector. The training will be conducted from January to April 2007 and will provide instruction to approximately 1200 employees.
- Developing an internet Traffic Management Plans simulation program by January 2007.
- Complete classroom curriculum development by January 2007.
- Complete 2007 Winter Training sessions by April 2007.

### <u>TASK A3-d</u> Identify standards and specifications to align with existing standards sources.

- An internet survey will solicit industry nomination of external codes and standards for possible integration into contracts.
- A consultant will then compile and organize those codes and standards and document the benefit of using each external code and standard in construction contracting.
- The survey will be completed by the end of the year.
- The feasibility of integrating external codes and standards into Caltrans' policy, training, information technology systems, project delivery manuals, and construction contracts will be reported.





### <u>TASK A3-e</u> District Director authority to process Minor B and emergency contracts.

- Decision documents for Minor B contracting, emergency contracting, and emergency project staffing have been completed. The recommendations of these decision documents support this initiative.
- Status: The decision documents are under final review. This step is 95% complete.

### MARK LEJA - Caltrans, Chief, Division of Design

#### TASK A3-c

Establish partnerships with local and regional agencies to promote use of consistent standards and specification, and to enforce contract language and cooperative agreements consistently.

- Caltrans revised templates for construction of locally funded projects and made the templates available to the districts.
- Beginning demonstrations of the Project Agreement Construction Tool (PACT) in the
  districts after holding a mini-conference with district coordinators, and meetings with
  the Self Help Counties co-op committee, Project Delivery Advisory Council, and the
  Director. Additional discussion to follow with the system to be available in February,
  2007.

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### **B** Contractors and Subcontractors Capacity

Remove barriers to Industry expansion.

#### B1 Make Caltrans the "Customer of Choice"

Promote effective working relationships and trust between Caltrans and industry to make it easy to do business with Caltrans and to promote two-way responsiveness between Caltrans and industry – for Caltrans to be the customer of choice and for industry to treat Caltrans as such. Promote a philosophical change within Caltrans and industry to support partnering and problem solving approaches. Empower field staff to implement solutions.

BOB PIEPLOW - Caltrans, Chief, Division of Construction

SAM HASSOUN - Director, Associated General Contractors

JOHN FRANICH - President, Associated General Contractors

REBECCA LLEWELLYN - Women Construction Owners and Executives, Caltrans SBC - Construction Subcommittee Chair

#### **TASK B1-a-1/5**

RE Certificate. Provide technical and soft-skills training to improve the performance of Caltrans staff and to reinforce the partnering approach. Consider resident engineer certification and possible inclusion of contractor licensure training. Train resident engineers on contractor operations.

- Surveyed the Construction District Deputies and construction staff to identify and prioritize resident engineer (RE) training needs. The knowledge requirements were grouped into 6 subject areas (safety, general construction, field inspection, contract administration, environment (SWPPP), and general skills). Individual courses were identified as required or elective courses.
- Develop training plan by September 2006. The plan will include training objectives, target audience, delivery method, development schedule and delivery schedule.
- Complete classroom curriculum development for RE Certificate by January 2007.
- Implement RE Certificate Program by April 2007.





### **TASK B1-a-6**

Industry/Caltrans Joint Training. Provide training opportunities for both Caltrans engineering field staff and contractors.

- Presented the Northern California AGC/Caltrans Career Day in March 2006.
- Presented 8 sessions of the Dispute Resolution Board (DRB) Workshops in April 2006. Over 100 Caltrans staff and 40 external partners participated in the sessions.
- Completed the DRB internet-based training in March 2006. Announcement letters were sent to industry in March inviting our partners to take the course on-line.
- Identified training needs with AGC representative, Sam Hassoun. Subject areas include: SWPPP, DRB Training, critical path method (CPM Scheduling), estimating communication, negotiation and partnering.
- Southern California AGC/Caltrans Career Day scheduled for November 2006.
- Develop joint construction courses and academies by July 2007.

#### <u>TASK B1-b</u> Improve the claims process.

- Caltrans is summarizing, flow charting, and evaluating the payment process for dispute resolution as well as the claims process.
- The claims processes of five state departments of transportation will be benchmarked against Caltrans' claims process.
- Actions will be recommended to simplify, streamline, and otherwise improve the effectiveness of Caltrans' claims process.





### BOB BUCKLEY - Caltrans, Chief, Division of Engineering Services

Survey industry and produce report on bid time requirements in light of GoCalifornia goals.

- Completed state DOT telephone survey of advertising durations.
- Completed internet-based construction contractor survey (55 firms responded).
  - o Most states do not meter their work
  - o Most states do not evaluate their advertising periods (Florida and Michigan are exceptions)
  - o Most large states advertise on a weekly basis
  - o Some states publish preliminary plans
  - o Most states advertise for 4 weeks. Large/Complex projects: 6-8 weeks.
- Drafted and circulated to Project Delivery Advisory Council a Decision Document to revise major construction contract advertising durations.
- Finalize decision document for signatures. Upon approval, revise advertising durations.

### ROBERT COPP - Caltrans, Chief, Division of Traffic Operations

<u>TASK B1-d-1</u> Limiting liquidated damages for late lane closure evaluation.

• Closure requirements and conditions specification being amended to limit the damages based on a percentage of the bid or a set amount.





#### **B2 Support the Participation of Small Contractors**

Develop a coordinated approach to promoting the participation of small businesses as part of the effort to increase industry capacity.

OLIVIA FONSECA - Caltrans, Deputy Director, Civil Rights

REBECCA LLEWELLYN - Women Construction Owners and Executives, Caltrans SBC - Construction Subcommittee Chair

TASKS B2-a and B2-f

B2-a: Explore the use of a positive incentive approach for utilizing small business (SB) and disadvantaged business enterprise (DBE) contractors - incentive for SB/DBE utilization in addition to meeting the minimum goal.

B2-f: Provide information and assistance programs to increase the viability of small businesses; e.g., mentoring, education, and small contracting academy approaches.

- Districts directed to implement Mentor-Protégé Programs.
- Caltrans has held small business forums throughout the state to provide small businesses an opportunity to learn how to do business with Caltrans.
- Caltrans has held procurement fairs throughout the state to provide opportunities for small businesses to market their business and sell their services and commodities to Caltrans.
- The Governor issued an Executive Order promulgated by Caltrans in support of Small Businesses and Disadvantaged Business Enterprises that:
  - Establishes a Small Enterprise Officer in Business, Transportation and Housing Agency to assist small businesses in growing expertise and in other ways develop the ability to acquire and perform on state contracts;
  - Establishes a \$4 million pool to create \$17 million of loan guarantees for transportation-related projects;
  - Directs the development of legislation to establish a \$40 million bond guarantee program;
  - O Directs exploration of measures to reduce cost of insurance to prime contractors and subcontractors; and,
  - Directs Caltrans to provide Districts with marketing tools to promote participation of SBs and DBEs and, with the Agency, provide information on advertised contracts.





- A Memorandum of Understanding (MOU) was executed with the Agency to operate the loan guarantee program.
- The Governor influenced fifteen (15) major business and employer groups to sign a partnership agreement with the Department to work as a cohesive team to maximize participation of DBEs in the transportation program.
- The next steps include:
  - Requesting funding for supportive services to provide training and technical assistance to small businesses.
  - O Continuing to attend outreach events statewide to promote the Department's commitment to provide opportunities for small business in contracting and procurement.
  - Working with Legislative staff to identify a bill to carry the proposed \$40 million bond guarantee program authority.
  - O Preparing a web site and other information means to advertise "6 months look ahead" information on contracts.
  - o Mentor-Protégé programs are being discussed at the districts. They have been given protocols from the current program in District 7 to use as reference.
  - o Implementation of the loan guarantee program is scheduled for September 2006, pending contracts with lenders.
  - Continuing to work closely with the Department of General Services to explore a process to provide DVBE incentives to bidders.

KARLA SUTLIFF- Caltrans, Chief, Division of Project Management

### <u>TASK B2-b-1</u> Evaluate breaking large contracts into smaller contracts.

• B2-b-1: Evaluate and document the current mix of small and large contracts. Analyze data to determine if there is a problem with an unbalanced mix of contract sizes. The mix of contract sizes needs to be balanced with other Department goals. For example, the cost of support (ratio of support expenditures to capital expenditures) to deliver a small contract is higher than large contracts. The more that is spent on support, the less that is available for the funding of construction projects. A draft report will be submitted by the project manager by mid October 2006.





• B2-b-2: Depending on the outcome of the findings of B2-b-1, either a plan to change the mix of small and large contracts will be developed or if the current mix of project sizes is appropriate a close-out report will be completed.

### BOB PIEPLOW - Caltrans, Chief, Division of Construction

### <u>TASK B2-c-1</u> Evaluate expanding subcontracting from 50% to 70%.

• Caltrans is reviewing other state transportation agencies and surveying contractors.

### TASK B2-d-1 Bonding and insurance barriers.

- SSP S1-020\_ E\_A07-21-06 issued on July 21, 2006, clarified and eased insurance requirements for subcontractor - mainly small and disadvantaged business enterprises.
- SSP S1-020\_A07-21-06 issued on July 21, 2006, to go into effect on January 1, 2007, uses a tiered insurance structure to provide better risk protection for Caltrans while maintaining lower insurance limits for jobs typically bid on by small contractors.
- Final report of insurance study completed and submitted. Report Title: "Insurance and Bond Availability and Risk Quantification Study: Alternatives to Remove Barriers to Small Contractor Participation."

### TASK B2-e-1 Paperwork streamlining.

- Identifying each step in the contracting process that a contractor goes through, from contract award to receiving a check following a successful arbitration.
- Each document will be collected, identified, and catalogued in chronological order.
- The purpose of each document will be identified, including its reference to laws or statutes.
- The consultant will recommend the elimination, combination, or retention of each form.





#### C Technology

Improve the use of technology in the construction process to remove barriers and improve quality and information exchange.

### C1 Expand Research and Development

Continue to enhance Caltrans research and development process to identify issues and generate new solutions.

LARRY ORCUTT - Caltrans, Chief, Division of Research & Innovation

SAM HASSOUN - Director, Associated General Contractors

TARA HAAS - Engineering & Utility Contractors Association, Government Relations/Grass Roots Coordinator

ED KALISH - Southern California Contractors Association, Inc., Government Liaison

TASKS C1-a & b Expand awareness within industry of Research and Development activities and opportunities for participation.

- Developing a topic/discussion board in the effort to improve web-based data exchange. A webmaster will monitor and manage the board on a daily basis.
- Web page will include improved data and links to the Pavement Research Centers and Advanced Highway Maintenance and Construction Technology (AHMCT). Quarterly reports from each detailing current and completed research projects will be included.
- Creating an "Upcoming Events" bulletin page to better broadcast a list research related events.
- Caltrans has improved the format of the two-page summaries.
- Caltrans presentations on research will be accessible through the web page.
- Internally tracking national engagement travel and keeping electronic copies of presentations given.
- Hired an "outreach" person to promote current and completed research within the Division of Research and Innovation and throughout the state.
- Created a new Construction Technical Advisory Panel (CTAP) for development of research concepts.
- Preparing to hold an annual workshop with industry and construction in January 2007.





#### **TASK C1-d** Expand CT involvement in national organizations

- Caltrans has developed a National Strategic Engagement Plan: "The Department's use
  of its Program Level Action Plan (PLAP) as a tool to influence national transportation
  policy, research, and technical innovation; and to harvest the benefits of its
  involvement to improve mobility in California."
- Examples for discussion:
  - TRB Annual Meeting The Caltrans participants at the Annual Meeting present papers, engage in committee meetings, and lead sessions. Trip reports identify actions for follow-up in California, such as design-build. Wes Lum's committee work involves finding solutions to transportation workforce issues, including the construction industry issues.
  - AASHTO Annual Meeting Will Kempton is Chair of the new Standing Committee on Finance and Administration and is on the Board of Directors. Rick Land is a member of the Standing Committee on Highways. Many other Caltrans managers are members of Standing Committees. Numerous other Caltrans experts are members of Subcommittees.
  - o TRB Construction Management Committee Gene Mallette, new member.
- The Division of Research and Innovation is evaluating Caltrans Research Problem Statements and will nominate selected ones for consideration in the national cooperative research programs.
- Nominating California transportation professionals to research panels guiding national cooperative research and share with Caltrans and industry the results of national cooperative research and propose follow-up actions.
- Conducting technology transfer workshops with industry and Caltrans.
  - For discussion are some of the following examples of research conducted with others:
    - CA4PRS
    - Facilitation of Safety Evaluations of Nighttime and Daytime Work Zones
    - Work Zone Enforcement Effectiveness
    - Effectiveness of Pavement Warrantees
    - Guidelines for Dowel Bar Insertion in Concrete Pavements
    - Predicting and Mitigating Hydroacoustic Impacts on Fish from Pile Installation
    - Use of Temporary Bridging to Avoid Impacts to Waters and Wetlands During Highway Construction





- Traffic Enforcement Strategies for Work Zones
- Design of Construction Work Zones on High-Speed Highways
- Mix Design Practices for Warm Mix Asphalt
- Development of Precast Bent Cap Systems for Seismic Regions
- Design Specifications and Commentary for Horizontally Curved Concrete Box-Girder Highway Bridges
- LRFD Soil-Nailing Design and Construction Specifications
- Measuring Tire-Pavement Noise at the source





#### C2 Upgrade Caltrans Technology Systems

Enhance Caltrans ability to interface with industry and manage projects.

#### BOB PIEPLOW - Caltrans, Chief, Division of Construction

#### <u>TASK C2-a</u> Construction Management System.

- Feasibility Study Report approved by Department of Finance on January 10, 2006
  - o Total project cost of \$25 million
  - o Project duration of 5 years
  - o 2006-07 Governor's budget includes \$950,000 for this project
- Support vendors contracted
  - Independent Project Oversight Consultant (IPOC)
  - o Business and System Requirements
  - o Acquisition Specialist contract being developed for advertisement
  - Independent Verification and Validation contract being developed for advertisement
- Project Committee formed
  - Members will assist in the development of and validate business and system requirements through December 2006.
- Purchased AASHTOWare SiteManager license
  - O SiteManager is a module of the Trns\*port suite of construction applications
  - o Application testing continues through December 2006
- Complete business requirements, application testing and gap analysis by February 2007
- Develop and advertise prime vendor Request for Proposals (RFP) in June 2007
  - Approximate contract value of \$13 million
  - o Contract duration of 3 years
  - o Award prime vendor contract by June 2008
- Phase 1 Implementation complete by November 2009
  - o Web-based application
  - Direct entry and approval of project data by Construction staff, contractors and external funding partners
- Phase 2 Implementation complete by October 2010
  - o Mobile computing to facilitate data collection and data sharing directly at job site
- Use training to continue through February 2011





MARK LEJA - Caltrans, Chief, Division of Design

### <u>TASK C2-b-1</u> Implement GPS grading controls - Enhance Caltrans ability to interface with industry and manage projects.

• Machine Guidance (MG) technology uses positioning devices, alone or in combination, such as Global Positioning Systems (GPS), Total Stations, or rotating laser levels, to determine the real time X, Y, and Z position of construction equipment and compare the position against a Digital Design Model stored in an onboard computer. A computer display shows the operator several perspectives and delta values of his/her position compared to the design surface. This technology has the potential to increase the contractor's productivity, reduce the number of survey stakes and reduce construction working days. The construction industry is currently implementing machine guidance and the Department has published interim guidelines to foster its use.

#### Accomplishments:

- O As a result of increasing requests for electronics files by the construction industry to use MG, Caltrans formed a MG Committee.
- O Numerous meetings held with hardware and software vendors, contractors and labor union representatives.
- Contacted other DOTs for MG policies, procedures, contract language, disclaimers, etc.
- o Increased management awareness by sharing technical articles and conducting presentations at Management Board meetings.
- Posted interim guidelines to facilitate the contractor's use of MG after contract award.
  - http://pd.dot.ca.gov/row/offices/landsurveys/documents/Interim-Guidelinesfor-Machine-Guidance-Technology.pdf
- o Identified a pilot project in District 11 (Brawley Bypass) to allow contractor to bid the project using MG technology.

#### Next Steps

- o Finalize specifications and guidance for the use MG for the pilot project.
- o Incorporate NSSP into pilot project for advertisement (RTL May 25, 2007).
- o Revise guidance and standards based upon lessons learned through pilot project.
- o Develop outreach and deployment plan to identify and implement MG projects.





#### Potential barriers:

- o The behemoth of the status quo. Lack of adaptation by Caltrans Design, Surveys, Office Engineer and Construction staff to implement new standards and procedures to maximize the efficiency and savings potential of MG projects.
- O Delivering effective training to prepare contractors and Caltrans staff to manage future MG projects.
- o Limited number of contractors invested, experienced and specialized in MG technology.
- O Potential for added risk/liability due to increased PS&E quality requirements given contractor's ability to check quantities.

#### **TASK C2-c-1**

Utilize industry standard tools for estimating (quantities move from design software, to engineer's estimate, to iBID, to CMS). Document optimum requirements for design; identify existing department capability and needs; and develop an implementation plan.

- Compiled a list of available software tools for estimating costs. Currently looking at "transport" and "AASHTOWare."
- Started evaluation of these tools.





### BOB BUCKLEY - Caltrans, Chief, Division of Engineering Services

<u>TASK C2-d</u>
Develop and implement an improved Pavement Management System (PMS) to provide empirical data for validating performance models.

- The Business Process Review and the Gap Analysis between the existing Pavement Management System and the "to be system" have been completed.
- Caltrans is working with a consultant to develop the implementation Master Plan for the Enterprise Pavement Management System. (E-PMS)
- The E-PMS will track actual pavement performance by pavement type, pavement structural section, climate, and traffic volume, instead of just the pavement condition survey for scheduling pavement work.
- A Feasibility Study Report (FSR) for the Master Plan will need to be prepared and approved by the Department of Finance.
- After approval of the FSR, a Budget Change Proposal will need to be prepared to fund the Enterprise system.
- After the system is in place, the existing structural sections will need to be defined and documented for performance tracking.
- Enterprise data collection will need to begin immediately after the existing structural section data are collected.





### D Recruitment and Training

Recruitment concepts integrated into J2 and training concepts integrated into A3.





### E Regulatory Environment

Advocate improvements to the environmental permitting process to facilitate project delivery while protecting state interests in environmental quality.

### E1 Streamline the Permitting Process

Advocate streamlined and simplified permitting processes.

JAY NORVELL - Caltrans, Chief, Division of Environmental Analysis

CHARLEY REA - Acting Executive Director Construction Materials Association of California

GARY ROHMAN - Associated General Contractors

ED PUCHI - Associated General Contractors

#### **TASK E1-a-1**

Use the "significant issue report" (SIR) process to communicate concerns. Caltrans to take a more active role in representing to other state departments and agencies (and federal agencies) the State's needs for timely and efficient mobility enhancements.

- Developing formal "elevation ladder" agreements with other agencies (e.g., U.S. Fish and Wildlife Service), so that identified problems can be elevated and resolved more quickly.
- The Director and other Caltrans managers met with California Coastal Commission executives regarding project-specific and programmatic permitting issues.

### TASK E1-d-1 Review regulatory permit procedures and include summary of permit requirements in materials handout to bidders.

- New policy requiring "Environmental Commitment Record" (ECR).
- ECR includes all environmental commitments, including permit conditions.
- ECR in Resident Engineer pending file.
- ECR used by Caltrans staff and available to the contractor to track and ensure compliance with environmental commitments.
- ECR fully implemented June 1, 2006.





JOAN SOLLENBERGER - Caltrans, Chief, Division of Transportation Planning

#### **TASK E1-b-1**

Evaluate and communicate to Air Resources Board (ARB) the impacts of air quality compliance timelines for off-road diesel emissions on small and medium-size contractors.

- Internal Small Contractors/ARB Regulations project meeting held in June 2006.
- Coordinating with ARB off-road rule staff (Kim Heroy-Rogalski) regarding contents and targets of their contractor surveys and cost-benefit analysis practices.
- Identifying regulations and other air quality requirements of interest, and general parameters for choosing contractors; making initial contact with AGC as appropriate to identify contractors and evaluate interest in participating.
- Attended the ARB diesel Off-Road Equipment Workgroup Meeting in July 2006.
- Contacted ARB on September 13, 2006, on the issue, but ARB is not providing the survey information needed to assist in developing the report on ARB's findings on the impact to small contractors.





### F Contract Administration Process

Improve the contract process to reduce delays and speed project delivery.

## F1 Expand the Use of Partnering in the Contract Process

Expand implementation of existing partnering protocols and processes. Use partnering methods between Caltrans and the construction industry in the contract process. Include subcontractors and small businesses in this partnership framework, and focus on finding solutions.

### BOB PIEPLOW - Caltrans, Chief, Division of Construction

### TASK F1-a

Expand implementation of existing partnering protocols and processes. Use partnering methods between Caltrans and industry in the contract process. Include subcontractors and small businesses in this partnership framework, and focus on finding solutions.

- The Division of Construction has dedicated an individual to Partnering
- Reinstating the Partnering Steering Committee (PSC)
  - o Made up of Caltrans and construction industry leaders
  - O To define the direction to the next level of Caltrans Partnering and provide direction and establishment of a team to update the Caltrans Field Guide to Partnering
  - o Kick-off meeting scheduled for tomorrow, October 5th
  - o Joint Caltrans/industry training will follow
  - o PSC will review the draft Project Close-Out Survey developed, which will include collection of data for partnering performance indicators
- Caltrans/Construction Industry Partnering Workshop
  - o Develop a Partnering Agreement
  - o Create momentum and commitment to the cause of partnering
  - Scheduled for November 8th
- Industry Outreach
  - o Caltrans is tracking meetings with industry in statewide
  - o In 2005, the Department and industry met over 100 times.
  - o To date in 2006, the Department and industry have met over 70 times.
  - o Posting completed and upcoming events on the Caltrans Partnering website
- Contract Administration Process Evaluation (CAPE) Partnering
  - o Developed a questionnaire and determined the project sampling





### F2 Increase Efficiency of the Contract Process

Focus on increasing efficiency, particularly involving payment processes and conflict resolution. In addition, pursue policies that allow for partial payment of contracts in the event of a dispute.

KARLA SUTLIFF - Caltrans, Chief, Division of Project Management

## Establish feedback mechanisms to identify areas in project delivery processes that need improvement.

- A Lessons Learned website has been developed. Its purpose is to capture and benefit from the lessons learned during the course of a project, and to continuously improve and correct Caltrans documents (manuals, handbooks...etc) and processes. All project team members are encouraged to record issues they have encountered during project delivery, and to provide suggestions and solutions for resolving those problems.
- The following steps are planned:
  - Develop a brief guide for the Lessons Learned website that will explain to users how to use it, and the benefit of doing so.
  - O Develop a marketing plan to make Project Delivery teams aware of it, and encourage its use.
  - Send quarterly invitations to all project managers who completed a milestone during the quarter to encourage them and their team members to submit lessons learned.
  - Prepare annual districts and regions reports summarizing the results for their respective lessons and feedback.
  - O Market use of Lessons Learned website via presentations at all Project Delivery (design, construction, engineering services, right of way, project management and environmental) Board Meetings and the Chief Engineer's Project Delivery Advisory Committee meetings with the 12 district directors.





## BOB PIEPLOW - Caltrans, Chief, Division of Construction

### TASK F2-b

Partial Payment of Claims - Evaluate and improve payment processes and conflict resolution. Investigate partial payment of contracts in dispute. Review guidance and publish policy supporting paying what is owed if there is entitlement.

• A draft Construction Policy Bulletin (CPB) has been prepared clarifying the payment of undisputed amounts due the contractor.







#### G Bonding and Insurance

Address barriers created by bonding and insurance requirements.

#### G1 Reevaluate the OCIP Process

Evaluate impact of owner controlled insurance program (OCIP) on contractors and develop solutions.

BOB PIEPLOW - Caltrans, Chief, Division of Construction

SAM HASSOUN - Director, Associated General Contractors

REBECCA LLEWELLYN - Women Construction Owners and Executives, Caltrans SBC - Construction Subcommittee Chair

TARA HAAS - Engineering & Utility Contractors Association, Government Relations/Grass Roots Coordinator

ED KALISH - Southern California Contractors Association, Inc., Government Liaison

### TASK G1-a-1 Phase III OCIP Feasibility Study.

- Phase I of the Owner Controlled Insurance Program (OCIP), recommended in the insurance study report as the most viable means of removing insurance as barrier to small and disadvantaged business participation in Caltrans' construction contracting, is being implemented on four projects in District 4 with a combined construction value of \$814 million.
- Phase I OCIP broker is on board and OCIP specifications developed.
- Action plan to implement insurance study report recommendations has been developed.
- Phase II OCIP, the statewide rolling OCIP (ROCIP) consultant RFP is set to be advertised in mid September.
- Determined feasible to implement a district-wide ROCIP in District 4 to cover all projects under \$1,000,000 (including all Minor B contracts), excluding toll bridges and the Devils Slide Tunnel. This was a strong recommendation of the insurance study report.





### H Funding

Advocate for stable and increasing funding to meet the mobility needs of California in the context of the *GoCalifornia* initiative.

Document and communicate the impacts of unpredictable funding on the construction industry and the long-term ability of the State to deliver mobility projects.

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### I Project Quality

Ensure that all construction projects meet or exceed quality standards.

## 11 Develop & Implement "Smart Delivery" Policy and Tools

Use "smart delivery" practices to maximize resource use and ensure that materials and labor are available and efficiently used. This includes the use of floating start times, advertising projects uniformly out over time, not bunching large number of advertisings during busiest season, and incentives to reward timely project completion.

KARLA SUTLIFF- Caltrans, Chief, Division of Project Management

JOHN FRANICH - President, Associated General Contractors

ANGELA DRISCOLL - Vulcan Materials Company, Principal Government & Permitting Analyst

JOE BLODGETT - California Laborers-Employers Cooperation and Education Trust, Interim
Director

MIKE McKERNAN - Associated General Contractors

CAROLYN PIERCE EWING - American Concrete Pavement Association/Southwest

TARA HAAS - Engineering & Utility Contractors Association, Government Relations/Grass Roots Coordinator

REBECCA LLEWELLYN - Women Construction Owners and Executives, Caltrans SBC - Construction Subcommittee Chair

### **TASK I1-a-1**

Use "smart delivery" practices to maximize resource use and ensure that materials and labor are available and efficiently used. This includes the use of floating start times, advertising projects uniformly out over time, not bunching large number of advertisings during busiest season, and incentives to reward timely project completion.

I1-a-1: Establish a joint Caltrans /Industry team and prepare recommendations to use "smart delivery" practices to maximize resource use and ensure that materials and labor are available and efficiently used. A tentative schedule has the workshop scheduled for November 6, 2006, and a final document by January 23, 2007.

I1-a-2: Implement approved recommendations: Pending completion of above item.





### 12 Ensure Quality in all Project Phases

Emphasize quality control from the planning and design phase to completion. Include quality management principles in contract development, as well as accurate cost estimates, budgets, and timelines.

RICK LAND - Caltrans, Deputy Director, Project Delivery

SAM HASSOUN - Director, Associated General Contractors

TIM HACKWORTH - American Concrete Pavement Association/Southwest (ACPA/SW),
Executive Director

## TASK I2-a-1 Develop performance measures to establish accountability. Incorporate performance-based quality management principles in the delivery of products and services.

- Implementing quarterly performance measures reporting.
- Draft of performance measures introduced to the District Directors at the June 27<sup>th</sup>
   Project Delivery Advisory Council for review and comment.
- Revised the draft PM report to be submitted with the sample report on September 27, 2006.
- Quality Management Guide sections are being incorporated into divisional guidance and are to include performance-based measures, in process.

# <u>TASK I2-a-2</u> Explore options for redefining the overall measure of project delivery success. Consider linkages between new ways to evaluate success and "smart delivery" concepts.

- Exploring de-linking Construction Contract Acceptance (CCA) from Project Complete.
- Investigating a CCA Action Plan to redefine and enable a higher level of operational success.
- Investigating "Smart Delivery."





### **TASK 12-a-3**

Develop a plan for implementing performance-based standards and specifications (work with others at the national level including other states, AASHTO, FHWA, etc.).

- Begin implementation of performance-based standards by starting with a complete revision and release of Standard Specification Section 39, Asphalt Concrete.
- Implement Section 29 change FY 06/07.







#### J Communication and Outreach

Expand public and policy maker awareness of the role of the construction industry and Caltrans in promoting California's long-term quality of life.

### J1 Address Public Perceptions of Caltrans – Improve public awareness and perception of Caltrans

Continue Public Service Announcements and other marketing and publicity. Focus on project delivery successes.

TAMIE McGOWEN - Caltrans, Chief, Division of Public Affairs

**RUSSELL SNYDER - Associated General Contractors** 

TARA HAAS - Engineering & Utility Contractors Association, Government Relations/Grass Roots Coordinator

CAROLYN PIERCE EWING - American Concrete Pavement Association/Southwest

## <u>TASK J1-a-1</u> Prepare and place a series of press releases, opinion editorials and/or display ads to run in major newspapers across California to support the General Plan.

- Based on confirmation of 06/07 FY advertised construction contracts (\$4.1 billion), Caltrans has designed a draft display ad for construction industry trade magazines directing contractors to the Caltrans website. The final ad approval is required by BT&H Agency prior to ad placement.
  - o Have placed one op-ed regarding project delivery/Caltrans successes.
  - Need to work with the Division of Procurement and Contracts (DPAC) to address procurement obstacles in order to place ads in magazines.





### J2 Create a Joint Marketing Coalition

Build a coalition to market the construction industry around the state, particularly to the public and in schools. An emphasis should be placed on showing the career potential of the construction trades, marketing the successes of the industry, and explaining the benefits of projects to the public.

TAMIE McGOWEN - Caltrans, Chief, Division of Public Affairs

TARA HAAS - Engineering & Utility Contractors Association, Government Relations/Grass Roots Coordinator

JOE BLODGETT - California Laborers-Employers Cooperation and Education Trust, Interim
Director

ADRIENNE MONROE - AGC California Construction Education & Research Foundation (CCERF) and California Coalition for Construction in the Classroom (CCCC)

### **TASK J2-a-1**

Coordinate with Human Resources to market the construction industry and career opportunities (through pamphlets, brochures, career fairs, school presentations, career counselors, etc.).

- In the process of working with industry liaisons to determine what they are doing to promote the construction industry as a viable career choice vs. what Caltrans is doing.
- The Caltrans HQ Recruitment Office spent approximately \$70,000 in recruitment events during 2005-06. (This does not include ALL events that the districts may have paid for.)
- For the past six years, Caltrans has been a co-sponsor of the annual event titled "Construction Career Awareness Day," along with the Federal Highway Administration (FHWA) and Associated General Contractors of California (AGC). This event provides exposure to career opportunities and pre-employment networking in the construction industry. Attendees include students from high schools, trade schools, colleges, technical training and apprenticeship programs.
- The Recruitment Program is working with CSU, Sacramento (via Interagency Agreement) to develop a marketing theme and recruitment materials. The Recruitment Program attended approximately 250 events during 2005-06, and anticipates attending just as many (if not more) in 2006-07.





- Spoke with Tara Haas, Engineering & Utility Contractors Association (EUCA). EUCA
  has produced a Recruitment video geared towards 20-30 year olds who do not plan on
  going to college. The video focuses on construction as a viable career path. EUCA is
  providing Caltrans with a copy of the DVD that we may use in our Recruitment efforts.
- Caltrans will also be contacting other industry liaisons including Russell Snyder, Carolyn Ewing, and Joe Blodgett, to determine what their marketing efforts are.

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